A STUDY ON COMPARATITIVE ANALYSIS OF EFFICIENCY OF INDIAN DAIRY INDUSTRY

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Data Collection

The research is based on secondary data collected from websites and published materials.

3 diary companies were chosen as a sample size (KWALITY, AMUL, and MOTHER DAIRY)

ANOVA, or analysis of variance, is a collection of statistical models used to compare group means and their associated procedures (such as variation among and between groups).

OBJECTIVES OF THE STUDY

● To analyse whether there are any significant differences in the profitability ratio of three selected dairy companies.

SCOPE OF THE STUDY

● The scope of the study is limited to three companies in the dairy industry, and the study period is from 2011 to 2018
HYPOTHESES

• H1: There is significance difference between working capital turnover ratios of Indian dairy companies.

• H2: There is significance difference between fixed asset turnover ratios of Indian dairy

• H3: There is significance difference between total asset turnover ratios of Indian dairy companies.

Table 1: Test of Homogeneity of Variances

<table>
<thead>
<tr>
<th></th>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital turnover</td>
<td>4.195</td>
<td>2</td>
<td>21</td>
<td>0.029</td>
</tr>
<tr>
<td>Fixed asset turnover</td>
<td>20.49</td>
<td>2</td>
<td>21</td>
<td>0.000</td>
</tr>
<tr>
<td>Total asset turnover</td>
<td>19.392</td>
<td>2</td>
<td>21</td>
<td>0.000</td>
</tr>
<tr>
<td>Inventory turnover</td>
<td>4.96</td>
<td>2</td>
<td>21</td>
<td>0.017</td>
</tr>
<tr>
<td>Ratio</td>
<td>Sum of Squares</td>
<td>Df</td>
<td>Mean Square</td>
<td>F</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------</td>
<td>----</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>Working capital turnover</td>
<td>4471.67</td>
<td>2</td>
<td>2235.837</td>
<td>0.849</td>
</tr>
<tr>
<td></td>
<td>55321.5</td>
<td>21</td>
<td>2634.359</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>59793.2</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed asset turnover</td>
<td>1272.77</td>
<td>2</td>
<td>636.385</td>
<td>224.66</td>
</tr>
<tr>
<td></td>
<td>4717.96</td>
<td>21</td>
<td>224.665</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5990.73</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total asset turnover</td>
<td>31.299</td>
<td>2</td>
<td>15.65</td>
<td>30.073</td>
</tr>
<tr>
<td></td>
<td>10.928</td>
<td>21</td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>42.227</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory turnover</td>
<td>2004.1</td>
<td>2</td>
<td>1002.05</td>
<td>69.497</td>
</tr>
<tr>
<td></td>
<td>302.79</td>
<td>21</td>
<td>14.419</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2306.89</td>
<td>23</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 3: Post Hoc Output of Efficiency Ratio

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>(I)</th>
<th>(J)</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig. 95% Confidence Interval</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Capital Turnover Ratio</td>
<td>Amul</td>
<td>Kwality</td>
<td>-32.75715</td>
<td>25.663</td>
<td>0.424</td>
<td>-97.4425</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mother</td>
<td>-22.18081</td>
<td>25.663</td>
<td>0.668</td>
<td>-86.8662</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dairy</td>
<td>32.75715</td>
<td>25.663</td>
<td>0.424</td>
<td>-31.9283</td>
</tr>
<tr>
<td></td>
<td>Mother Dairy</td>
<td>Kwality</td>
<td>-10.57633</td>
<td>25.663</td>
<td>0.911</td>
<td>-54.1091</td>
</tr>
<tr>
<td>Fixed Asset Turnover Ratio</td>
<td>Amul</td>
<td>Kwality</td>
<td>-17.77474</td>
<td>7.49441</td>
<td>0.068</td>
<td>-36.6649</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mother</td>
<td>-7.58805</td>
<td>7.49441</td>
<td>0.577</td>
<td>-26.4783</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dairy</td>
<td>17.77474</td>
<td>7.49441</td>
<td>0.068</td>
<td>-1.1155</td>
</tr>
<tr>
<td></td>
<td>Mother Dairy</td>
<td>Kwality</td>
<td>10.18669</td>
<td>7.49441</td>
<td>0.38</td>
<td>-8.7035</td>
</tr>
<tr>
<td>Total Asset</td>
<td>Amul</td>
<td>Kwality</td>
<td>0.48036</td>
<td>0.36069</td>
<td>0</td>
<td>1.7176</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mother</td>
<td>0.31680</td>
<td>0.36069</td>
<td>0</td>
<td>-0.6600</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dairy</td>
<td>2.6267</td>
<td>0.36069</td>
<td>0.394</td>
<td>-1.3895</td>
</tr>
<tr>
<td></td>
<td>Mother</td>
<td>Kwality</td>
<td>-0.48036</td>
<td>0.36069</td>
<td>0</td>
<td>1.2372</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dairy</td>
<td>2.14635</td>
<td>0.36069</td>
<td>0</td>
<td>-3.5359</td>
</tr>
</tbody>
</table>
The mean difference is significant at the 0.05 level.

In the above table no.2, for working capital turnover ratio, P value 0.442 which is less than 0.05, so alternative hypothesis is accepted at 5% level of significance. Hence it concludes that there is no significance difference between working capital turnover ratios of Indian dairy industry.

For the fixed asset turnover ratio, p value .081 is more than 0.05, so null hypothesis is accepted at 5% level of significance. Hence it concludes that there is no significance difference between fixed asset turnover ratios of Indian dairy industry.

For the total asset turnover ratio, p value .000 is less than .05. so null hypothesis is rejected at 5% level significance. Hence it concludes that there is significance difference between total asset turnover ratios of Indian dairy industry.

For Inventory turnover ratio, p value .000 is less than .05, so null hypothesis is rejected. Hence it concludes that there is significance difference between inventory turnover ratios of Indian dairy industry.
Post Hoc Test

A stepwise multiple comparison procedure were used to Identify sample means that are significantly different from each other. The Results from one way Anova do not indicate which of three groups differ from one another, so in many cases the post hoc analysis is done.

Table 3. shows the Post hoc output of Working capital turnover ratio, Fixed asset turnover ratio, Total Asset Turnover Ratio, and Inventory Turnover Ratio. In case of Working capital turnover ratio, Fixed asset turnover ratio, Amul, Sudha, and Mother dairy has no significant relationship with each other as the P-Value (0.424) which is more than 0.05 in maximum cases. But in case of Total asset turnover ratio and Inventory turnover ratio there is a significant relationship between Sudha, Amul, and Mother Dairy, As the P value is less than 0.05 that is 0.00 and 0.001.